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VoiceStream Wireless
1300 Pennsylvania Ave., NW
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Washington, D.C. 20004

BY HAND DELIVERY

June 22, 2000

Ms. Magalie Roman Salas
Office of the Secretary
Federal Communications Commission
445 Twelfth Street S.W.
Twelfth Street Lobby, TW –A325
Washington, D.C. 20554

Re: Notification of *Ex Parte* Contact in CC Docket No. 94-102

Dear Ms. Salas:

On June 15, 2000, Beth Frasco, Rob Rowe, and I met with Daniel Grosh, Blaise Scinto, Marty Leibman and Patrick Forster of the FCC. The purpose of the meeting was to discuss VoiceStream's Petition for Waiver of certain of the Commission's E-911 Automatic Location Identification ("ALI") requirements. In particular, VoiceStream addressed its ongoing trial of E-OTD location technology and data collection efforts associated with that trial. The presentation is summarized by the attached slides.

Pursuant to Section 1.1206 of the Commission rules, two copies of this letter and the slides have been filed with your office. Please contact me with any questions.

Very truly yours,

Robert A. Calaff
Corporate Counsel – Governmental and Regulatory Affairs
VoiceStream Wireless

Enclosures

cc: Blaise Scinto
Marty Leibman
Dan Grosh
Patrick Forster

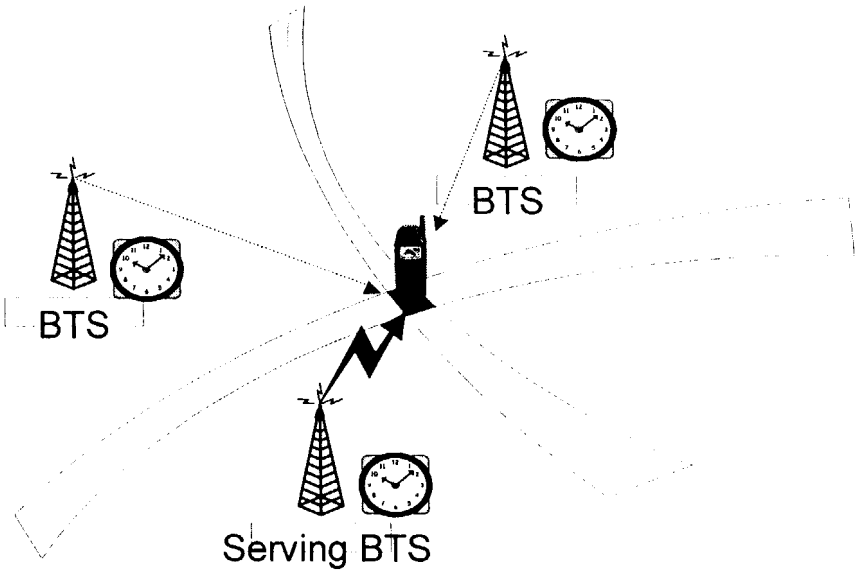
VoiceStream Wireless Petition for Waiver
Discussion with the FCC

June 15, 2000

E-OTD - Technical Description

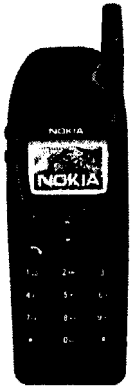
E-OTD Network Operation

- **Mobile listens to bursts sent from neighboring BTSs**
- **Mobile records burst arrival times**
- **Position is triangulated from:**
  - **Coordinates of BTSs**
  - **Burst arrival time from each BTS**
  - **Timing differences between BTSs**



3G Systems use E-OTD as the intrinsic method for position determination

E-OTD - Handset Implementation



No Change to Antenna Structure

No Change to DSP or RF Hardware

Software Modification Required to Enhance Existing Measurements Process

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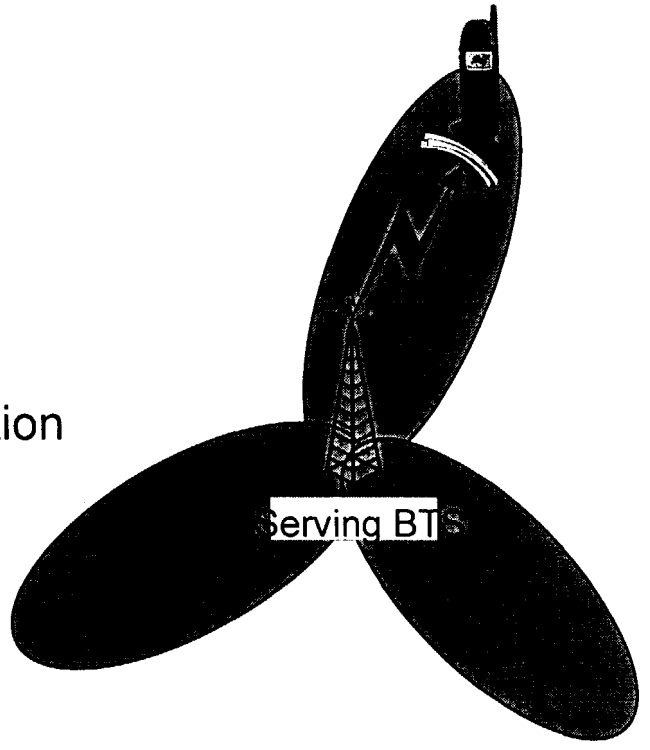
Network Software Solution - Description

Network Software Solution Operation

- Solution uses data currently reported by the mobile and known by the BTS
- Works with all legacy mobiles
- Only Data from a single cell is necessary
- Variety of information used to calculate position
- Received signal strength from all sectors
- Known cell location and antenna orientation
- Basic timing advance
- Enhanced timing advance



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VoiceStream Proposal

- Implement Network Software Solution
  - Immediate ALI support for all handsets everywhere.
  - Better than Phase I accuracy
  - ALI safety net for public safety
- Implement Handset Based E-OTD Technology
  - Can meet implementation timelines
  - Can do so with reasonable cost
  - Can meet 100m accuracy
- Achieve Increasing Accuracy on Both Technologies Over Time
  - Improvements will come with experience
  - Gains on one technology will benefit the other

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VoiceStream Proposal Meets FCC's Goals

- RAPID
  - Network Software solution gives instant ALI support to entire network
  - First E-OTD handsets are available for testing now
  - No volume manufacturing issues for E-OTD Handsets
- INEXPENSIVE
  - Network Software solution has a low, fixed cost
  - Inexpensive implementation in the E-OTD handset
  - Relatively inexpensive network equipment
  - Consequently, relatively small cost to pass onto the public
- UBIQUITOUS
  - Network Software solution will allow > phase I accuracy everywhere
  - Network Software solution will cover noncompliant handsets
  - Rapid availability and low handset cost will allow E-OTD to quickly become ubiquitous
  - PSAP request not required

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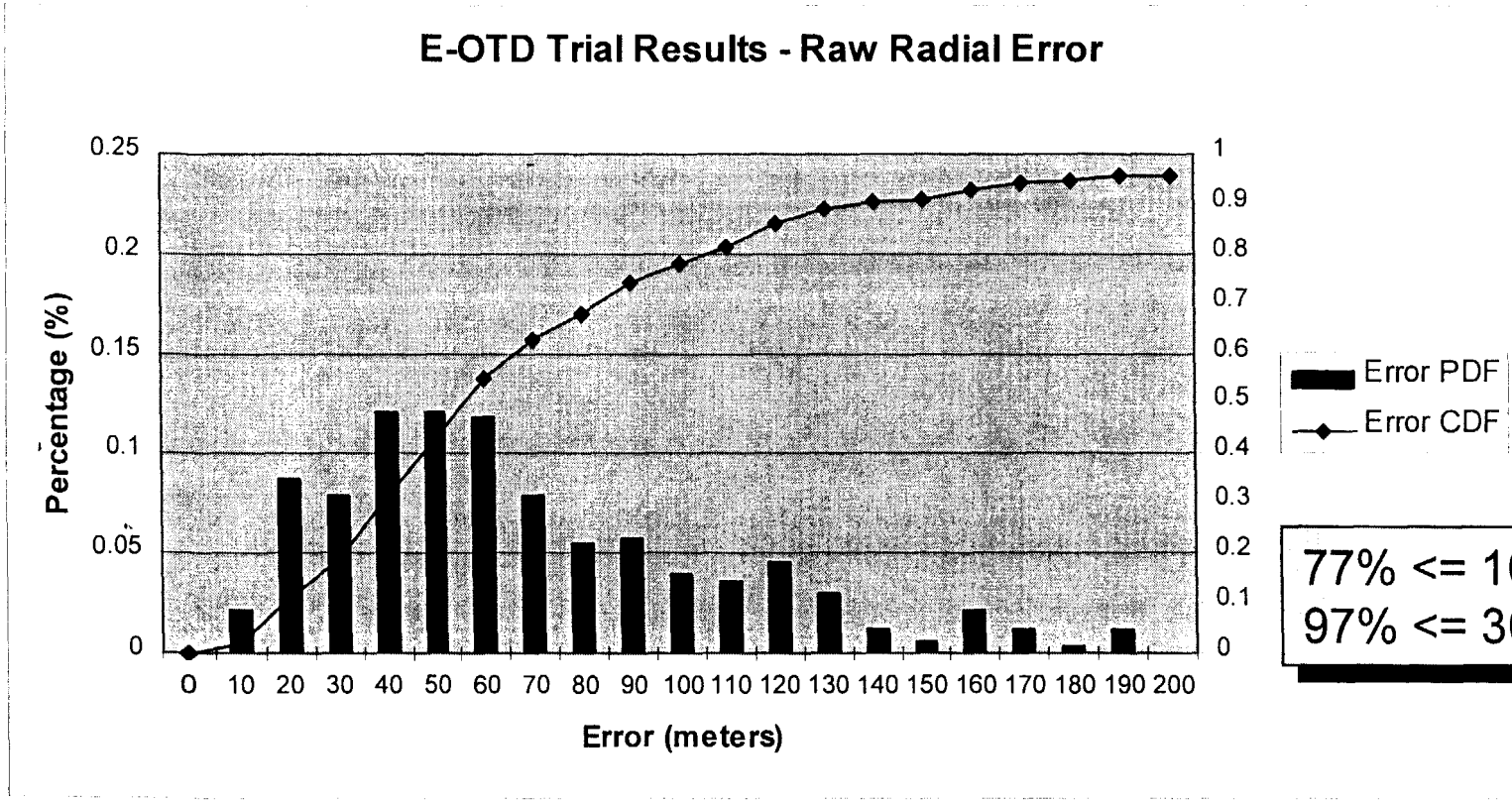
E-OTD Field Trial Results



E-OTD Trial Results Indicate 100 Meter Accuracy is Attainable

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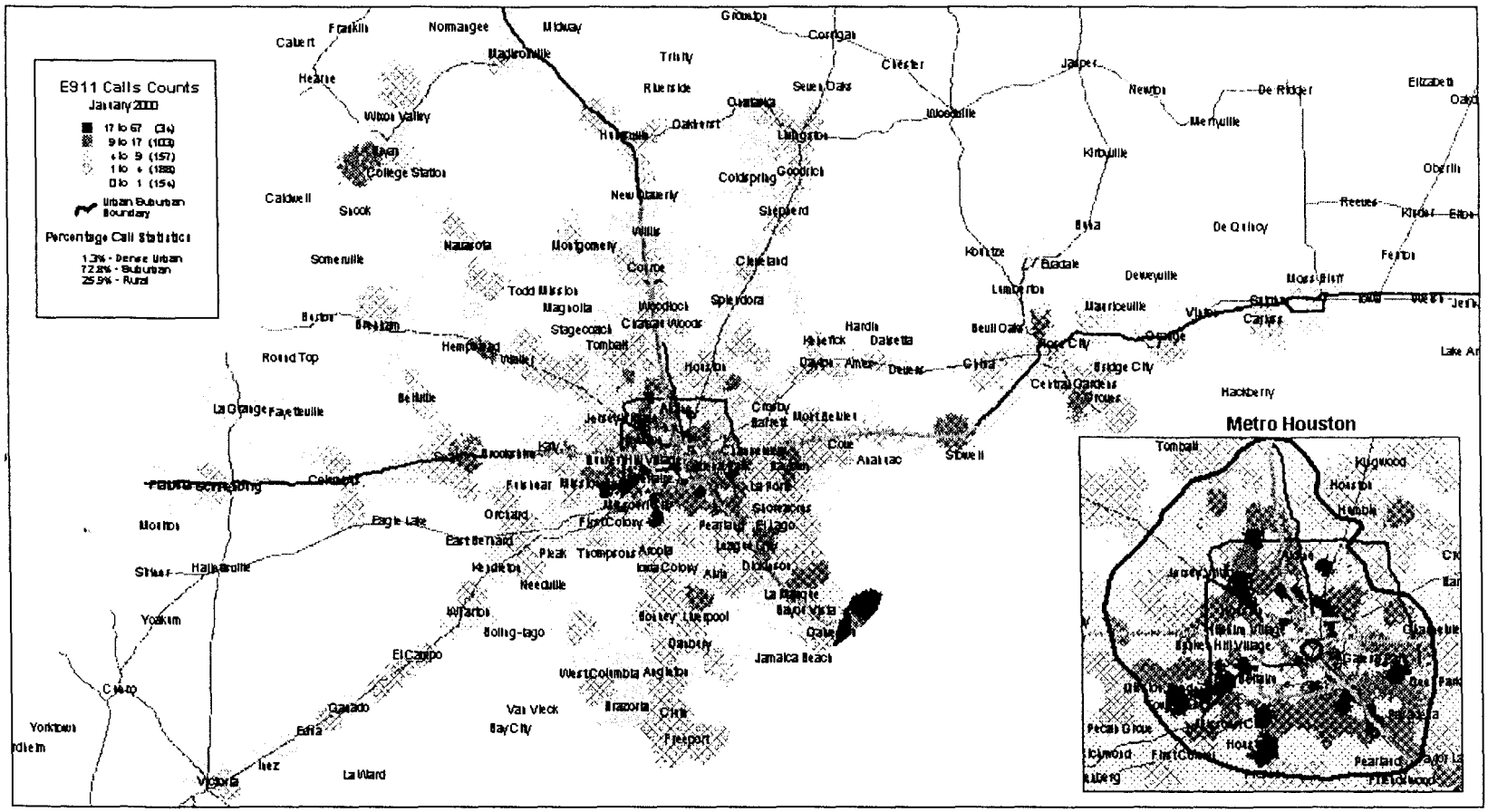
E911 Call Distribution

Houston E911 Results - January 2000 - Call Density



LCS Performance Critical in Suburban Areas

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E911 Call Distribution

Market	Urban - %911	Suburban - %911	Rural - %911
Houston	1 %	73 %	26 %
Tampa	4%	61 %	35 %
Minneapolis	6 %	69 %	25 %
Kansas City	3 %	60 %	37 %
Columbus	5 %	75 %	20 %

Negligible 911 Call Volume in Urban Areas in All Markets

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Future E-OTD Trials

- Upcoming VoiceStream E-OTD Trial
  - 300 km^2 Suburban Area
  - Will complete end of year 2000
  - Wide industry participation
  - Seek to understand accuracy possibilities and limitations
  - Seek to understand how information from Network Software solution could be used to improve accuracy

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VoiceStream E-OTD Trial Update

- Equipment delivery complete
  - BTS equipment
  - E-OTD commercial handsets
- Installation complete
- Commissioning in progress
- Data collection expected to begin Summer 2000

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VoiceStream E-OTD Trial Update

- May 3, 2000 - all GSM operators and vendors in North America invited to information session on VoiceStream E-OTD Trial
- Seven (7) Vendors attended
- Seven (7) Operators attended
- NDAs being signed with interested parties
- Parties will collectively contribute to and approve testing plan
- Parties will collectively participate in data collection and analysis

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E-OTD - Future Enhancements to Accuracy

- Learning curve effects with the technology will improve accuracy
- Increasing memory and processing capabilities in handsets will improve accuracy
- Increasing cell site density will improve accuracy
- Refined planning, implementation and manufacturing will improve accuracy
- Accuracy improvements will happen across all environments
- E-OTD will benefit from evolution to 3G networks where E-OTD technology is the preferred, standardized method for positioning

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Network Software Solution - Future Accuracy Enhancements

- Presence of E-OTD can be used to enhance the accuracy of the Network Software solution
  - Network software measurements can be combined with actual position reported by E-OTD mobiles to train the Network Software algorithms
  - Positioning accuracy of non-compliant handsets can be improved
  - This benefit is proportional to the number of E-OTD mobiles
- Increasing cell site density will improve accuracy

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Conclusions

- VoiceStream's proposed solution provides:
  - Ubiquitous support for location information
  - Improving accuracy over time
  - Rapid deployment without a PSAP request
  - Relatively low cost

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Recommendations

- Retain the October 1 2001 implementation deadline
- Implement a 2 year progression towards the 50m accuracy requirement for handset based solutions
  - Initial accuracy requirement 100m
  - Require a overlay solution like the network software solution to address non-compliant handsets
  - Deploy a full ALI solution without a PSAP request
- Grant the VoiceStream waiver so that investment and deployment of a full ALI Phase II solution can proceed.

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